Remarks/Arguments

This paper is submitted responsive to the Office Action mailed January 5, 2007. Reconsideration of the application in light of the accompanying remarks and amendments is respectfully requested.

The present application is drawn to the shaft of a surgical instrument, and specifically to the structure of the shaft which is well illustrated in Figures 3A and 3B. The shaft is formed of alternating beads which contact each other along lines of contact (LC) defined between convex surfaces of the adjacent beads. This line contact, which is present even when the shaft is bent, minimizes friction between adjacent beads. This results in a shaft which remains very flexible, even when the beads are under compression. This can happen, for example, when the shaft is incorporated into a clamp device. In such a device, when the jaws of the clamp are closed, for example on a blood vessel of a patient, the flexible shaft allows the handle of the device to be bent out of the way. The flexible shaft of the present invention allows this bending to be done with less torque being transmitted to the blood vessel. This is discussed at length in the specification, for example at page 6, lines 9-26.

The claims as previously pending called for this structure and had been rejected by the Examiner based upon newly cited US 4,949,927 to Madocks et al. (hereafter "Madocks") and US 6,019,722 to Cosgrove (hereafter "Cosgrove") combined with Madocks.

In rejecting claim 68, the Examiner relied solely upon Madocks.

In rejecting claims 50, 56 and 61, the Examiner acknowledges relies upon Madocks and/or Madocks in view of Cosgrove. The Examiner acknowledges that Madocks does not disclose that the second bead has a convex shape at the line of contact. However, the Examiner asserts that the shape of the second bead at the line of contact is a matter of design choice. Reconsideration of this holding in particular is respectfully requested.

Initially, it is pointed out that there is a clear structural difference between each of independent claims 50, 56, 61 and 68 (as amended herein), and the prior art.

Each of claims 50, 56, 61 and 68 clearly calls for structure of the second beads which is absent from Madocks and Cosgrove, specifically, these claims call for the second beads to contact the first beads along a line of contact, and for the second beads to have a convex shape at the line of contact.

Cosgrove does not at all disclose this structure, and the Examiner does not contend that it does.

Madocks shows socket members 18, which correspond roughly to the second beads of the present claims, and this structure contacts ball 12. At the point of contact, the socket members have a straight surface, not a convex surface.

This difference is not a trivial difference, nor is it a matter of obvious design choice. Although the art is silent as to any important concerns in connection with the shape of the socket members at the point of contact, the structures of the present invention are intended to maintain flexibility when under compression caused by operation of an internal cable or other member for

actuating some function of a surgical instrument. When under such compression, some deformation of the adjacent surfaces will take place and, invariably, there will be a greater surface area of contact between two components where one has a flat surface, than there will be between two components where that same component has a convex surface.

As to claim 61, the Examiner concedes that base reference Cosgrove as applied to that claim does not show the beads of the present invention, but rather relies upon Madocks for this teaching. Madocks fails in this regard, as set forth above, and claim 61 is therefore patentable over the art of record.

Independent claim 68 has been amended and contains the same language as claims 50, 56, and 61 which is believed allowable over the art of record.

The Examiner also entered a double patenting rejection based upon claims 1-7 of US 6,638,287. While it is still maintained that this double patenting rejection is improper, a terminal disclaimer is submitted herewith, and it is noted that the applications are and shall remain under the same ownership, and that they are already set to expire on the same date.

An earnest and thorough effort has been made by the undersigned to resolve the outstanding issues in this case and place same in condition for allowance. If the Examiner has any questions or feels that a telephone or personal interview would be helpful in resolving any outstanding issues which remain in this application after consideration of this amendment, the Examiner is courteously invited to

telephone the undersigned and the same would be gratefully appreciated.

It is submitted that the claims as amended herein patentably define over the art relied on by the Examiner and early allowance of same is courteously solicited.

An authorization for an extension of time fee accompanies this paper. It is believed that no further fee is due. If any such fee is due, please charge same to Deposit Account No. 02-0184.

Respectfully submitted,

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